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ABSTRACT

This paper provides a case study of eight magnet schools in Austin, Texas, to illustrate the role of evaluation research in assessing the impact of the magnet school experience on students and parents. After an introduction, the paper describes the history of Austin's magnet schools at the elementary, junior high, and high school levels. Next, findings of the Austin Office of Research and Evaluation on parent and student outcomes are provided. They focus on the following questions: (1) Who was served in the elementary magnet school programs? (2) Who transferred to the elementary magnet programs? (3) Who was served in the Science Academy Magnet School? (4) How did entering science academy students compare to other students districtwide in terms of achievement? and (5) What gains were made by students by the end of the year? The paper then describes the impact of magnet programs on the district, focusing on enrollment by ethnicity, impact on transfers, and impact on enrollment in high school honors courses. In conclusion, it is said that these findings indicate how evaluations of magnet school programs can go beyond the simple documentation of student characteristics and description of achievement outcomes at the schools where magnets are located. (KH)

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ASSESSING OUTCOMES OF MAGNET SCHOOLS

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AUSTIN INDEPENDENT SCHOOL DISTRICT
AUSTIN, TEXAS

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ASSESSING OUTCOMES OF MAGNET SCHOOLS

INTRODUCTION

At a time when educational reform is sweeping the states, the role of magnet schools is particularly unique (Lines and McGuire, 1984). Many states, including Texas, have implemented strict state mandated curricular elements, increased academic graduation requirements, eliminated social promotions and generally reduced local district options. At the same time, educational reform has generally emphasized strong early childhood programs for the disadvantaged, mandated remedial/tutorial assistance to underachievers and established goals directed towards reducing drop-out rates. Instead of diminishing general interest in magnet schools, it is the observation of this author, that there is an increasing interest by students and parents in the concept of magnet schools. Apparently, this is one of the few areas in which there is still some degree of choice: which school to attend; which curricular emphasis is of personal interest or aptitude; or what additional curricular enhancements should be considered by a school district.

To illustrate the role of evaluation research in assessing the impact of the magnet school experience on students and parents, the case study approach will be used, focusing on Austin, Texas. The methods, measures, and data used in assessing the outcomes of a new magnet school program in Austin will illustrate how school districts can plan and implement evaluation programs. Studies of magnet schools in other districts will also be referenced.

Each of the eight magnet schools in the Austin Independent School District (six elementary, one junior high and one senior high) were, in the main, initiated by parent and business leadership and nurtured in a supportive climate established by the school district administration and Board of Trustees. Since 1982, when the first four magnet schools were established at the elementary school level, parents and business leaders, through the Austin Adopt-A-School program have assisted in the planning and implementation of each magnet curricular theme and activities. While it may be a bit of a cliché, it is still true that people support what they help create! The Austin magnet school story confirms this premise.

In the 1985-86 evaluation report, prepared by the Office of Research and Evaluation, six major summary findings were listed as follows (Gaines, 1986):

1. Magnet programs have helped to stabilize enrollment at the elementary campuses over the last three years. At all six magnet schools, enrollment increased during either the first or second year of the program.
2. After steady declines since desegregation began, enrollment at Lyndon Baines Johnson High School (L.B.J.) increased 14% in 1985-86, the first year of the Science Academy.
3. Elementary programs have been successful in attracting transfer students from overcrowded South Austin schools.
4. Ninth grade Science Academy students had achievement gains greater than expected in reading and science. Tenth grade students exceeded their expected gain in mathematics.
5. The number of students enrolled in honors courses at L.B.J. High School increased 55% as a result of transfers to the Science Academy. Enrollment in honors classes at other campuses was not significantly affected by the loss of transfer students.
6. Eighty-six percent of the Science Academy students reported that they would encourage other interested students to apply.

The types of magnet school outcome measures used in Austin have been used in studies by Blank in "The Effects of Magnet Schools on the Quality of Education in Urban

School Districts" (1984) and Rossell in "What Is Attractive About Magnet Schools?" (1985).

AUSTIN HISTORICAL PERSPECTIVE

Elementary Schools

The first four elementary magnet school programs were established in the 1982-83 school year. Two more elementary schools were added in 1983-84. The primary purpose was to provide a means of assisting these schools, which were under-enrolled, achieve the ethnic balance as outlined in the court approved student assignment desegregation plan. Parents and school staff in the six schools were concerned that their elementary campuses might be closed because of low enrollment. They proposed establishing magnet schools around a curricular theme to attract students and gain parental support from the overcrowded South Austin schools and at the same time achieve the court approved ethnic goals in their own schools without disturbing the ethnic balance goals in other schools.

This general plan was presented to and approved by both the administration and the Board of Trustees for the Austin Independent School District. Parents in each of the six elementary schools have been instrumental in planning, implementing and obtaining approval for the program. They have also assisted in attracting parents of other elementary school students in transferring to a magnet school. Businesses which have adopted the elementary magnet schools have provided both financial resources and technical expertise to each program.

Junior High School

The first junior high school magnet program in Austin was tried on a very limited basis, and unsuccessful due to a number of factors, in this author's opinion.

- o The court approved student assignment plan moved so many students out of that particular building that few committed parents and students were left to build a core of strong support for either the school or a magnet program.
- o The student assignment plan approved in the court consent decree allowed few junior high students the flexibility of transferring to this particular campus. Over 100 students submitted transfer requests but only 9 transfers were approved.

- o The curricular theme established for this magnet school was not of general enough interest to attract students nor their parents. Extensive interest surveys had not been conducted and used for planning purposes as were done for other magnet school sites. It appears that the attraction of the magnet was insufficient to offset strong junior high peer group affiliation needs.

A subsequent magnet school has been established (1986-87 school year) at a new replacement school site as outlined in the court-approved desegregation plan. Positive steps have been taken. Parents and community leaders have been involved heavily in the planning stage. Interests of students and parents have been obtained through surveys, and the curricular theme for the new junior high magnet is based on the results of those surveys. The ethnic goals of the court-approved student assignment plan do not serve as a block to student transfers into the program.

While it is too soon to evaluate student and parent outcomes at the time of this writing, preliminary data indicate strong interest and support for this magnet school. When the school doors first opened in September, 1986, there was already a waiting list of students and

their parents who had applied but could not be accepted because the enrollment goal had been met. Magnet school satellite programs were established on the home school campuses to accommodate students on the waiting list. The Office of Research and Evaluation will evaluate the effectiveness of the program in terms of student and parent outcomes.

High School

One of the high schools in Austin was built over a decade ago in a fringe area of the city that was projected to be a fast-growing, naturally integrated section of Austin. The beautiful school plant was designed around the school-within-a-school concept wherein students and faculty were clustered into school "family" units to prevent the depersonalization that frequently occurs in comprehensive high schools. In spite of a decade of extremely fast growth in the city and in the school district, this particular section of Austin did not develop fully, leaving a beautiful but greatly underutilized school with a predominately minority student population. Many of the high school parents became very unhappy with what was

happening to their school and children. The community unrest spilled over into the school causing perceived racial tensions, increased student disruptions and lowered student achievement. Parent groups approached the administration and Board of Trustees strongly requesting that something be done to improve the school and learning environment.

At approximately the same time (1984), a number of business leaders from the high-technology industries in Austin approached the administration and Board of Trustees with an idea of establishing a "first-class high school" with a science, math, and technology theme, with support and expertise offered by the high-tech industries in the area.

With approval from the school district, one staff member from a high tech corporation and one person from the school administrative staff were assigned full-time for about half a year to the task of developing a plan, establishing a joint advisory committee and surveying student and parent curricular interests. Questions had to be addressed from parents and staff in the other high schools. If advanced programs were set up, would it skim

the talented teachers and students from other Austin schools? Many meetings were held with students, parents, and school personnel to give assurance that top-quality programs in all schools would not be gutted to set up a high school magnet program.

The focus of the magnet school was determined to be math/science technology, as a result of an extensive interest survey of parents and students. Math and Science were used as a starting point. The validity of the theme was checked with parent and student surveys. It was found that the parents and students shared the "high-tech fever" that was sweeping Austin leadership. The following rankings helped determine the theme and content of the magnet program later to be called "The Science Academy of Austin":

COMPARISON OF RANKING OF MAGNET
SCHOOL OPTIONS BY POPULARITY
FOR HIGH SCHOOL STUDENTS
AND PARENTS

RANK	STUDENTS	PARENTS
1	No Transfer*	No Transfer*
2	Business/Management	Math/Science ¹
3	Math/Science ²	University High ¹
4	Computer Science ²	Computer Science
5	Trade/Industry	Business/Management
6	Fine Arts	Trade/Industry
7	Communication	Fine Arts ³
8	Agriculture	Communications ³
9	---	Agriculture

1 Tied in ranking.

2 Tied in ranking.

3 Tied in ranking.

* Students and parents who indicated they would not be willing to transfer to magnet schools for any reason.

The placement of The Science Academy in the under-utilized high school was an obvious choice. Also, an open transfer policy was established to attract voluntary transfers to increase enrollment. Beginning in the 1985-86 school year, the magnet school students became part of the comprehensive high school for all classes and activities with the exception of the advanced math and science classes provided by the Science Academy in one section of the school-within-a-school.

One key factor of success to date was the hiring of the Science Academy Administrator and Science Coordinator a year in advance of opening the magnet school. Besides planning and recruiting, they involved the Advisory Board and the University of Texas in the development of curriculum and gaining public support.

Student and Parent Outcomes

The Austin Independent School District has long believed in thorough and objective evaluation of the major programs implemented by the school district. To achieve that goal, a separate Office of Research and Evaluation was established, staffed by highly qualified evaluators who

report to the Director of Management Information. Program personnel have no direct supervisory role over the evaluation office. Thus, neutrality and objectivity can be maintained in conducting research and evaluation activities.

The student and parent outcomes resulting from magnet school experiences in Austin reported herein are drawn from an evaluation document prepared by the Office of Research and Evaluation for the Board of Trustees (Gaines, 1986). Several evaluation questions were addressed by the study.

Who Was Served In The Elementary Magnet School Programs?

The percentage of students by ethnicity and gender served by the elementary magnet program in the Austin Independent School District for the school year 1985-86 is presented in Figure 1.

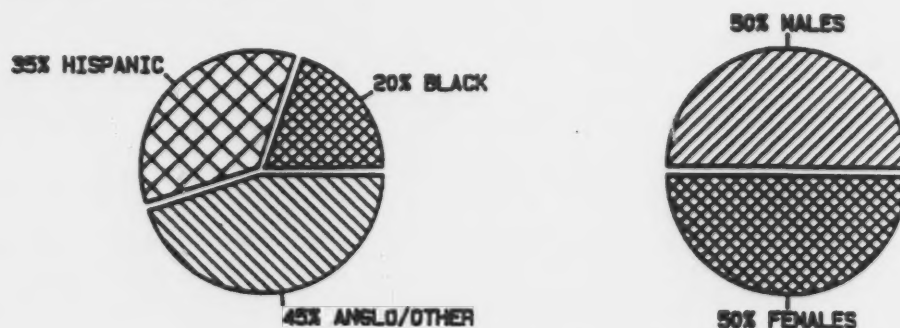


Figure 1. ELEMENTARY MAGNET STUDENTS:
ETHNICITY AND SEX CHARACTERISTICS.

Figure 2 presents the student characteristics by school, including the percentage of students who were eligible for the free or reduced-price lunch program. The enrollment figures were obtained from the Average Daily Membership Report for the first six weeks, and the percent low-income was taken the last day of school, June 3, 1986. At Gullett and Sims Elementary Schools, where not all students attending the school were participants, the figures were based only on students in the magnet program.

SCHOOL	ETHNICITY			SEX		PERCENT LOW INCOME	STUDENTS SERVED
	BLK	HSP	A/O	MALE	FEMALE		
BROOKE	4%	69%	27%	54%	46%	55%	325
BRYKER WOODS	33%	15%	52%	49%	51%	32%	224
GULLETT	8%	5%	87%	57%	43%	6%	165
HIGHLAND PARK	2%	35%	63%	52%	48%	28%	382
ORTEGA	22%	46%	32%	46%	54%	55%	307
SIMS	62%	13%	25%	45%	55%	58%	212

Figure 2. ETHNICITY, SEX, LOW-INCOME STATUS, AND ENROLLMENT OF STUDENTS SERVED IN ELEMENTARY MAGNET PROGRAMS.

Who Transferred To The Elementary Magnet Programs?

Participation in the elementary magnet programs via voluntary transfer to a magnet campus was open to all students districtwide who were eligible to transfer under the stipulations of the district's transfer policy. Essentially, a student was not eligible if he/she was reassigned for desegregation or if the student was in the

minority ethnic group at the home school. The program at Gullett required students to submit an application and to be tested and screened before being admitted to the program. Once admitted, a student's transfer request was approved.

One indication of a magnet school's attracting power is the number of transfers granted to students for the magnet program relative to the number of transfers granted for all other reasons.

Figure 3 indicates the total number of transfers, and the proportion of the total represented by magnet transfers for each campus during 1985-86 as an indication of each program's attracting power.

1985-86 TRANSFERS TO "ELEMENTARY" MAGNET SCHOOLS

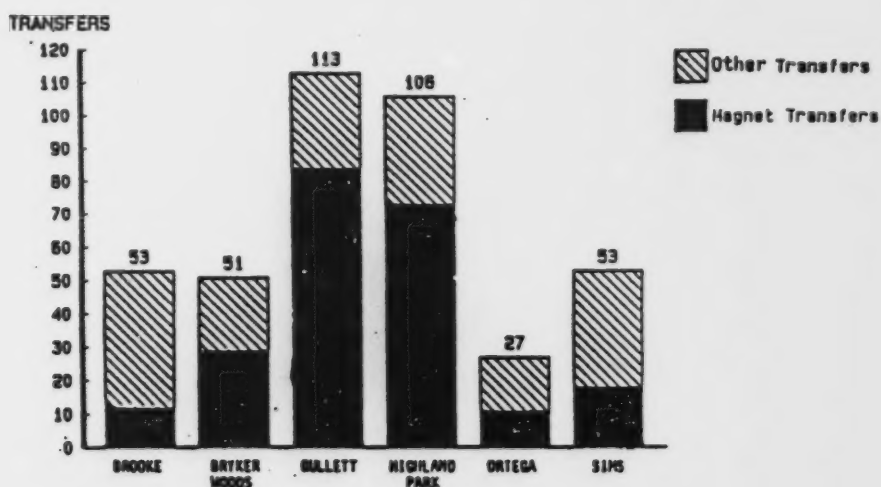


Figure 3. ELEMENTARY MAGNET TRANSFERS AS PORTION OF TOTAL TRANSFERS.

In order to examine the drawing power of the magnet programs on students of the three major ethnic groups, the percentage of total transfers was calculated for each group by the Office of Research and Evaluation. The number of magnet transfers within each ethnic group and the percentage of the total transfers represented by the magnet transfers were also found. The schools were grouped according to their pre-desegregation status, either minority-dominant or Anglo-dominant.

	TOTAL TRANSFERS (Percent of Total)			MAGNET TRANSFERS (Percent of Ethnic Group)		
	BLK	HSP	A/O	BLK	HSP	A/O
Formerly Minority-Dominant:						
Brooke	5 (9%)	34 (64%)	14 (26%)	2 (17%)	2 (17%)	8 (66%)
Ortega	4 (15%)	9 (33%)	14 (52%)	0 (0%)	1 (9%)	10 (91%)
Sims	33 (62%)	2 (4%)	18 (34%)	7 (39%)	0 (0%)	11 (61%)
Formerly Anglo-Dominant:						
Bryker Woods	3 (6%)	2 (4%)	46 (90%)	1 (3%)	2 (7%)	26 (90%)
Gullett	23 (20%)	7 (6%)	83 (73%)	14 (17%)	5 (6%)	65 (77%)
Highland Park	7 (7%)	25 (23%)	74 (70%)	6 (8%)	8 (11%)	59 (81%)

Figure 4. ETHNIC COMPOSITION OF TRANSFER STUDENTS AT MAGNET CAMPUSES.

The number of transfer students to formerly minority-dominant schools has been small compared to the number of magnet transfers to the formerly Anglo-dominant schools. While statistical significance cannot be determined, the educational significance should be

considered within the context of the demographic characteristics of the schools since desegregation. Brooke, Ortega, and Sims were experiencing white flight; the number of Anglo students dropped three to four percentage points each year after the first year of desegregation. Increases in Anglo students at the minority schools coincided with the implementation of the magnet programs. That the downward trend in the percentage of Anglo students was halted and reversed was educationally significant at those schools and for the District. To improve the overall enrollment as well as the ethnic balance at the magnet program campuses is a specific objective of the magnet programs in the Austin Independent School District.

Compared to the changes at the minority schools, the formerly Anglo-dominant schools have not made as much progress toward meeting the objective of having ethnically balanced schools as a result of the magnet schools. The percentage of minority students at Bryker Woods and Gullett has remained relatively stable since the magnet programs were implemented, but the percentage of minority students at Highland Park has declined. Transfer students to the

three schools have been primarily Anglo students from the overcrowded south Austin schools rather than minorities from schools in east Austin. However, to relieve overcrowded south Austin schools is also an objective which showed progress through the number of voluntary transfers over the years the programs have been operating.

Who Was Served In The Science Academy Magnet School?

In 1985-86, the first year of implementation, 115 ninth and 41 tenth grade students and a few eleventh graders were enrolled. The program is designed to expand to include approximately 200 students in each of four grade levels. Students admitted to the Science Academy enrolled in an extra course offered during a "zero hour" period (before the official start of the school day). These courses were usually math or science taught by a Science Academy teacher. Students also had additional mathematics, science, or computer classes with the Science Academy faculty during the day. Students were integrated into the entire L.B.J. High School student body for their remaining academic and elective courses.

Admission to the Science Academy was determined by a student's satisfactory performance on a battery of admission criteria, including standardized test scores, teacher recommendations, expression of interest, and an interview with a Science Academy staff member. Because any student could obtain a transfer to L.B.J. High School in an effort to increase enrollment, once a student was selected, a transfer request was approved regardless of eligibility under the stipulations of the District's transfer policy.

A total of 282 students applied to the Science Academy, of which 216 (78%) were accepted, and 193 (68%) enrolled. Figure 5 shows the proportion of applicants who cancelled their application before or after the selection decision was made, and those who were rejected. Figure 6 shows the proportion of enrolled students who dropped out for various reasons.

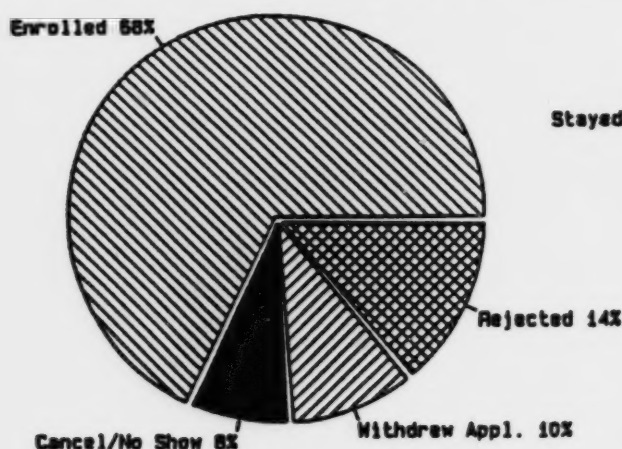


Figure 5 . SCIENCE ACADEMY APPLICANTS, 1985-86.

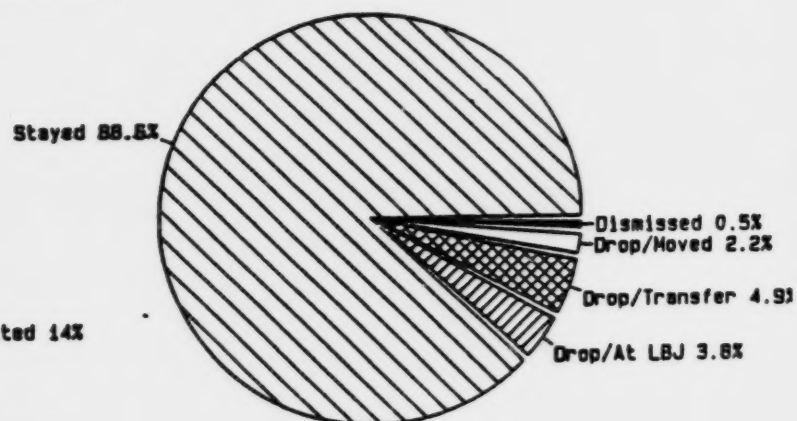


Figure 6 . ENROLLMENT STATUS BY END OF YEAR.

Figure 7 below summarizes the ethnic, sex, and low-income status of the students who were still enrolled when the last count was taken for the school year 1985-86.

BLACK	ETHNICITY		SEX		PERCENT LOW-INCOME
	HISPANIC	OTHER	MALE	FEMALE	
33	12	123	122	46	11
20%	7%	73%	73%	27%	7%

Figure 7. CHARACTERISTICS OF SCIENCE ACADEMY STUDENTS.

How Did Entering Science Academy Students Compare To Other Students Districtwide In Terms Of Achievement?

The criteria used to select applicants for the Science Academy required that their standardized test percentile scores in math and reading should sum to at least 140, and no subtest total percentile score should be below the 50th percentile. In general, the Science Academy applicants scored well above students districtwide on all subtests of the ITBS or TAP. The figures on the next page (Figures 8 and 9) show the median percentile scores for eighth and ninth grade applicants who were accepted compared to students districtwide by ethnicity.

	SCIENCE ACADEMY ENROLLEES		DISTRICTWIDE	
	GRADE EQUIV.	PERCENTILE	GRADE EQUIV.	PERCENTILE
READING				
Black	10.25	78	7.67	33
Hispanic	10.35	80	7.77	36
Anglo	11.40	93	9.84	71
TOTAL	11.20	91	8.89	54
MATHEMATICS:				
Black	9.95	77	7.78	32
Hispanic	10.15	81	8.12	39
Anglo	10.80	92	9.52	69
TOTAL	10.60	88	8.82	54

Science Academy: Black=16, Hispanic=10, Anglo=111

Figure 8. 1985 ITBS MEDIAN GRADE EQUIVALENT AND PERCENTILE SCORES FOR STUDENTS DISTRICTWIDE AND SCIENCE ACADEMY ENROLLEES IN THE NINTH-GRADE IN 1985-86. There is no science subtest on the ITBS for which to report previous levels of achievement.

	SCIENCE ACADEMY ENROLLEES		DISTRICTWIDE	
	GRADE EQUIV.	PERCENTILE	GRADE EQUIV.	PERCENTILE
READING:				
Black	13.20	76	8.07	29
Hispanic	*	*	8.62	36
Anglo	16.20	91	12.26	70
TOTAL	15.90	90	10.23	54
MATHEMATICS:				
Black	14.40	83	7.95	25
Hispanic	*	*	8.59	32
Anglo	16.20	92	12.52	72
TOTAL	14.90	86	10.55	55
SCIENCE:				
Black	13.20	77	7.64	26
Hispanic	*	*	8.28	33
Anglo	16.10	95	11.98	69
TOTAL	15.30	90	10.14	53

Science Academy: Black=15, Hispanic= 5, Anglo=30

Figure 9. 1985 TAP MEDIAN GRADE EQUIVALENT AND PERCENTILE SCORES FOR STUDENTS DISTRICTWIDE AND SCIENCE ACADEMY ENROLLEES IN THE TENTH-GRADE IN 1985-86. There were too few Hispanic tenth-grade Science Academy students to report reliable results.

At the time applications were submitted, eighth grade students accepted into the Science Academy:

- o Scored an average of 37 percentile points above the district median percentiles for all students in reading on the ITBS (91st percentile versus 54th).
- o Scored an average of 35 percentile points above the district ITBS median percentile in mathematics (89th versus the 54th).

Ninth grade applicants:

- o Scored an average of 36 percentile points higher than the district TAP median percentile score in reading (90th versus the 54th).
- o Scored an average of 31 percentile points higher than the district TAP median percentile score in mathematics (86th versus the 55th).

What Was Student Achievement By End Of Year?

At the end of the year, regression analyses were done on the ninth and tenth grade TAP reading, mathematics, and science grade equivalent scores. A variety of characteristics were taken into consideration such as previous achievement level, sex, ethnicity, low-income status, and desegregation status to predict achievement levels for each student.

For ninth graders, TAP scores were predicted from 1985 ITBS scores. Because the ITBS does not have a science subtest, total battery grade equivalent scores were used in calculating a predicted TAP science score. All tenth grade TAP scores were predicted from the students' 1985 TAP scores.

The following graphs show that the Science Academy students made large gains during the year. In addition, they made slightly larger gains than their high-achieving counterparts districtwide. It should be noted that the tenth-grade science gains for the Science Academy students are not significantly larger than the gains for the similar, high-achieving students. The Science Academy administration proposed that the tenth-grade Science Academy students did not have sufficient opportunity to demonstrate mastery in the science content areas they studied during the year (primarily chemistry and physics). Because of a change in the science course sequence at the ninth and tenth grades that took effect in 1985-86, some Science Academy students had biology in 1984-85 and some had not had biology at all. (This effect is unlikely to recur.) Only 32% (1st sem.) and 20% (2nd sem.) of the

Grade Equivalent

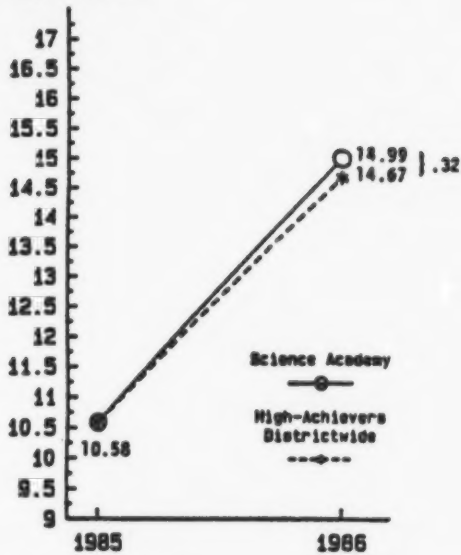


Figure 10a

Ninth-Grade Mathematics Achievement

Grade Equivalent

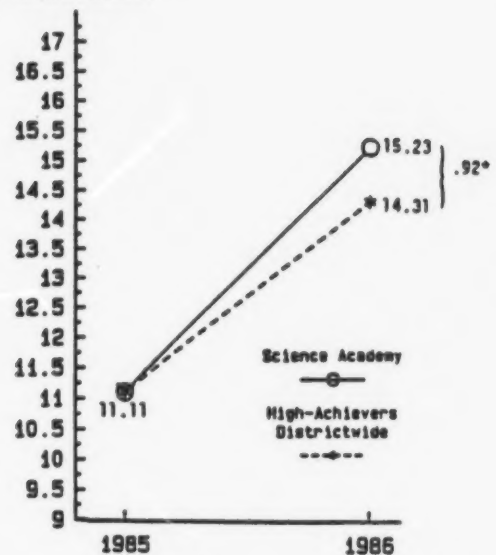


Figure 10b

Ninth-Grade Science Achievement
*Statistically Significant difference

Grade Equivalent

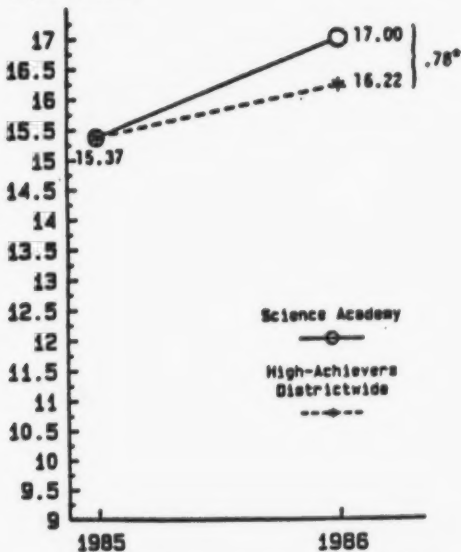


Figure 10c

Tenth-Grade Mathematics Achievement
*Statistically significant difference

Grade Equivalent

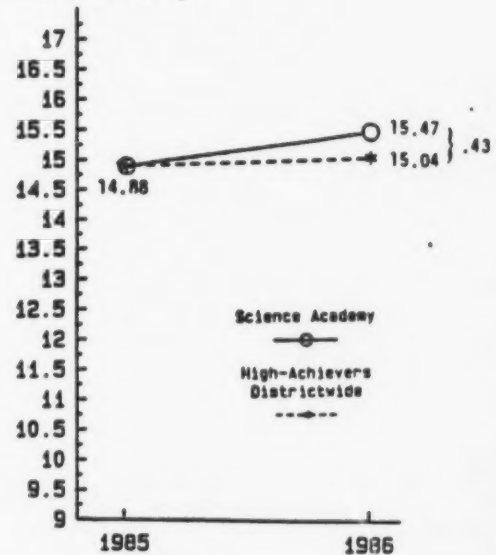


Figure 10d

Tenth-Grade Science Achievement

tenth-grade Science Academy science enrollments were in biology during 1985-86. By comparison, 58% of tenth grade science enrollments districtwide were in biology during 1985-86, and very few had chemistry or physics. However, the TAP science subtest is heavily loaded on biology items (37% of all items) and has very few on chemistry (3%) or physics (3%) items. The Science Academy director suggested that administering a higher level of the science TAP may help remedy this curriculum-test mismatch, as the higher levels have more chemistry and physics items than the lower levels.

Attitudes Toward The Science Academy

A 28-item survey was distributed to Science Academy students in April 1986, and 143 (86%) were completed and returned. No make-ups were offered. The results of the student survey indicated:

- o More than half of the students felt motivated either by being with students with similar interests or just being in the Science Academy.
- o Most of the students (80%) plan to go to college and are considering a career in a science, math, or technology field.

- o Students who thought that the courses were difficult also tended to think that the teachers expected too much from the students. Students with a high grade point average tended to think the courses were easy.
- o Eighty-six percent reported that they would encourage other interested students to apply.
- o Students felt less prepared in study skills than in subject areas. Only 25% felt better than adequately prepared, and 30% felt poorly or not at all prepared in study skills, compared to fewer than 20% who felt poorly or not at all prepared in all other academic areas.

Students were also asked to respond to open-ended questions about what they liked and disliked about the Science Academy. While academic topics, such as math and science, represented over half of the positive comments, academics also received the largest portion (36%) of unfavorable comments. Students also focused on attitudes towards teachers and social aspects (student-student interactions in social settings) of the program in their comments about what they disliked (24% and 23% of the comments, respectively).

IMPACT OF MAGNET PROGRAMS ON THE DISTRICT

Enrollment And Ethnicity

The enrollment by ethnicity was examined at each campus over a seven year period. Since the Austin Independent School District implemented its desegregation plan in 1980-81, enrollment at seven of the eight campuses has been declining. Trends generally began to reverse with the introduction of magnet programs. The enrollment data indicated the following:

- o All six elementary campuses increased in enrollment during either the first or second year of the magnet programs. Previously, these six schools had lost enrollment, in part, due to flight from court-ordered desegregation.
- o In general, the enrollment at the six elementary schools has stabilized over the last three years (83-84 through 85-86). The magnet schools may have contributed to this, but there may have been other factors involved as well.
- o L.B.J. High School showed its first increase in enrollment (+14%) since desegregation with the implementation of the Science Academy.
- o After desegregation impacted the school district, ethnic distributions remained relatively stable.

While conclusive statements about the impact of magnet schools on enrollment cannot be made because other District programs and policies affect a school, it appears that the magnet programs are impacting the schools in a positive way.

Impact On Transfers

- o As the magnet schools have gained in popularity, the number of magnet transfers has increased. The largest increases occurred between the first and second years of the programs.
- o A total of 765 elementary magnet transfers have been granted since the programs were first implemented.
- o On a per school basis, transfers from overcrowded south Austin schools have been granted at a higher rate than from other schools, which is consistent with the purpose of the magnet schools. The sixteen south Austin elementary schools (south of the Colorado River) have contributed 44% of the total magnet transfers, or an average of 21 per school compared to an average of nine for all remaining elementary campuses.
- o Elementary magnet transfer students comprised from 4% to 22% of a school's total enrollment, with the average at 11.5%.
- o Science Academy students represented nearly 15% of the total enrollment at L.B.J. High School; the magnet transfer students alone accounted for 10%. Almost 73% of all Science Academy students transferred from other schools.

Impact On Enrollment In High School Honors Courses

Enrollments in honors courses at the other high schools was examined to determine whether the Science Academy affected these schools by attracting transfer students to L.B.J. High School. The number of students taking one or more honors courses and the total enrollment for all honors courses were obtained for each campus. Then, assuming that the Science Academy students were at their home school, enrollment estimates were calculated. A course was considered impacted if more sections would have been offered or the course would have been offered with the presence of the transfer students.

In general, the findings indicated no significant negative impact on the other high schools, with the exception of Johnston High School. Rather, the Science Academy had a positive impact on L.B.J. High School by increasing enrollment in honors courses. The following results were found:

- o The number of students taking one or more honors courses at L.B.J. High School increased by 55% due to magnet transfers, while the average loss at the other schools was only 3.2%. At Johnston, the number decreased by 5.8%.

- o Total enrollment in all honors courses at L.B.J. High School increased just over 70%, while the other schools experienced an average decrease of 4.7%. Enrollment at Johnston decreased 9.3%.
- o All Science Academy students were enrolled in honors courses. Academy students accounted for 54% of all L.B.J. High School students in honors courses.

In addition to quantifiable results there are other indicators of parent and student support for the magnet schools in Austin Independent School District:

- o Since the establishment of the Science Academy, the numbers of individual parents and parent groups appearing before the School Board to express strong concerns about the high school have vastly diminished.
- o The principals of the elementary magnet schools report an increasing number of parents who volunteer to assist with learning activities related to magnet curriculum. On several occasions during the school year, 1986-87, parents from elementary magnet schools, have appeared before the School Board to invite Board members to special magnet events that occur on their campuses.
- o Many comments heard by the author in schools and the community indicate a general change in perception of L.B.J. High School from a disruptive, troubled campus to an orderly, quality campus, in part, due to the Science Academy.

- o With the implementation of the Science Academy at L.B.J. High School in 1985-86, overall disciplinary measures dropped from 14% of the students to 9% of the student population. While it is too soon to tell if this trend will continue, the drop in students requiring disciplinary actions was higher than all other high schools for the same period of time.

SUMMARY

The evaluation of magnet school programs in the Austin Independent School District was based on a decision making approach. In addition to monitoring progress in meeting the stated program objectives, the evaluation was designed to provide information in response to a number of questions that were likely to be asked by administrators or used to make decisions about the programs. Furthermore, evaluation utilization is encouraged if information is reported in a ready-to-use form.

The 1985-86 evaluation of the magnet programs asked decision questions stated in the form, "Should the magnet program be continued as it is, modified, expanded, or

discontinued?" The evaluation questions, which directed the data collection and analysis, asked about the characteristics of the students served and the implementation of various components of the programs in order to monitor progress and compliance in meeting program objectives. The second year of evaluation continued to monitor progress but also focused on gathering information for making admission to the high school magnet program. Information gathering also focused on achievement and student surveys, which were used by program administrators for modifying the curriculum.

Evaluation of magnet schools can go beyond the simple documentation of student characteristics or description of achievement outcomes at the schools where programs are located. Innovative approaches in identifying outcome measures and assessing program effectiveness are possible and necessary. The Austin Independent School District has evaluated the impact of magnet schools on achievement through the use of linear model regression techniques to compare the achievement gains of magnet students to gains made by similar, nonmagnet students. The impact of voluntary transfers to the magnet programs on the sending

campuses was assessed via simulation exercises by hypothetically replacing the transfer students at their assigned schools and measuring the differences. Additional information about the model and techniques used for evaluating magnet schools and other programs may be obtained by contacting the Office of Research and Evaluation in the Austin Independent School District.

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